

# Hepatitis (Chronic, Idiopathic) of Dogs

## ABOUT THE DIAGNOSIS

In dogs, as in humans, the liver is a vital organ—it is essential for life. It performs many functions: it eliminates toxins absorbed by the intestinal tract; processes the body's energy supplies of sugar, fat, and proteins; participates in digestion; and stores large supplies of energy in the form of sugars and some fats. The liver is also involved in many hormonal and regulatory processes as well as the production of many important building blocks for the body, including the proteins that keep up muscle mass and prevent abnormal fluid shifts into the body's tissues, and the proteins that are critical to forming blood clots to prevent hemorrhage.

Hepatitis is inflammation of the liver. In human beings, hepatitis happens most commonly due to viral infection (hepatitis A, B, C, etc.), but these viruses do not affect dogs at all. Rather, dogs that develop hepatitis do so most often as a result of self-directed damage of liver tissue by the dog's own misguided immune system. That is, a trigger creates a case of mistaken identity whereby the immune system perceives the body's own liver tissue as foreign and slowly begins to attack it. In most instances, the trigger of this process is unknown, or idiopathic, giving rise to the name of the disease, idiopathic hepatitis. Another name given to this same disease in the past was chronic active hepatitis.

No matter what the underlying cause, once the immune system starts to damage the liver, the liver's ability to function can become greatly reduced. This can cause limited production of necessary nutrients, inefficient digestion, pooling of fluid in the belly (abdominal effusion, ascites) and abnormal hormonal balances. In severe cases, blood clotting disorders can develop, causing unusual or excessive bleeding. In addition to a reduction in liver function, idiopathic hepatitis can cause destruction of liver cells. This does not immediately make a difference because the liver has a great deal of extra reserve, but ongoing destruction of liver tissue can, over a period of time, cause severe permanent damage and scarring of the liver (known as fibrosis or *cirrhosis*). Normal liver cells have some ability to reproduce and regenerate, but severe cirrhosis and scarring of the liver can eventually lead to complete liver failure.

The outward symptoms of idiopathic hepatitis may range from the subtle to the severe. Vague signs of listlessness, loss of energy, weakness, unintended weight loss, decreased appetite, and vomiting are common, but these are very nonspecific—they are also symptoms of dozens of other types of totally different diseases. More significantly and in more severe cases, yellowish discoloration of the whites of the eyes, of the gums, or of the skin (icterus, also called jaundice) or gradually increasing fluid distention and bloating of the abdomen (ascites) can occur when the liver's function is significantly reduced. Ascites can produce a pot-bellied appearance that often gives a misleading impression of weight gain, when in fact only fluid bloating is occurring and lean body mass is actually decreasing (emaciation).

When some of these symptoms are present, your veterinarian will want to check your dog's liver status. There are usually four steps needed to reach the conclusion that idiopathic hepatitis is the cause of a dog's problems. First, routine blood tests show general abnormalities that involve the liver. This is initially done with a routine set of laboratory blood and urine tests (complete blood count, serum biochemistry profile, urinalysis), which screen for evidence of liver damage.

Second, if there are signs of liver damage on the tests or clues of reduced liver function, your veterinarian may recommend an important and useful blood test, the serum bile acids test. It is a blood test that is performed on blood drawn when a dog has an empty stomach; your dog must not have eaten anything (complete fasting) for the preceding 12 hours. A blood sample is drawn, your dog is given a meal, and another blood sample is drawn for comparison 2 hours later. Screening with the serum bile acids test is one of the most reliable ways of checking liver function in dogs. Note the importance of a complete fast for the 12 hours prior to the bile acids test: giving a treat or a meal before the test could invalidate the test or even make it appear that a problem exists when it does not, so be sure to withhold all solid food (but not water: drinking water is fine and does not affect the test) for 12 hours before a serum bile acids test.

Third, imaging the liver with ultrasound is an important step. Ultrasound examination findings are often nonspecific in chronic hepatitis; however, ultrasound is necessary and is used to rule out other causes of liver disease (for example liver cancer or bile duct obstruction). The findings might direct the evaluation or treatment in different directions.

Fourth and finally, if the bile acids test is suggestive or conclusive for decreased liver function and the ultrasound examination does not reveal some other specific cause, a liver biopsy is obtained under general anesthesia to confirm the specific cause of the liver problem, and therefore the severity of the problem, the optimal treatment, the likelihood for a positive treatment response, and the prognosis (long-term outlook). Many other liver diseases are common and they can imitate idiopathic hepatitis. A liver biopsy identifies the exact nature of the liver problem, whether idiopathic hepatitis or any of several other liver problems that produce the same symptoms but require different treatments and carry potentially very different (better or worse) expectations for improvement. In a liver biopsy, a dog is placed under general anesthesia (full unconsciousness). Either the biopsy is obtained with minimally invasive techniques (ideally laparoscopy, which uses a camera and small openings into the abdominal cavity to view the liver and direct the biopsy) or an open surgery is performed to visualize the liver and obtain a larger specimen of liver tissue. Your veterinarian will help determine whether the lesser invasive technique is preferable over the more invasive approach. Either way, the **only** way to know whether a dog has idiopathic hepatitis is to perform a liver biopsy—even the most skilled veterinarian cannot be sure without microscopic evaluation of liver tissue. Ultrasound-guided biopsies usually do not allow the collection of enough tissue to be reliable.

It is important to realize that a liver biopsy in a dog that may have idiopathic hepatitis must be approached carefully. Prebiopsy precautions are numerous, including screening the blood for its ability to clot normally, assessing the blood's circulating protein levels because they are essential for healing after the biopsy but are often underproduced in liver disease, and so on. It is common for a dog to require 1 or 2 days of in-hospital stabilization, meaning preparatory treatments in anticipation of the biopsy, prior to having the biopsy itself be performed.

If your veterinarian suspects that your dog may have idiopathic hepatitis, then all four steps are usually necessary: routine blood test, then bile acids, then an ultrasound examination, then liver

biopsy, although the bile acid test is sometimes skipped if a liver biopsy is immediately warranted. Proceeding in this stepwise manner allows your veterinarian to narrow the possibilities accurately and not conclude prematurely that idiopathic hepatitis is the cause of a dog's symptoms when it is not. If your dog cannot undergo a liver biopsy, then treating with empirically selected medications (treating the symptoms) is less optimal but can be effective in some individuals.

## LIVING WITH THE DIAGNOSIS

As mentioned above, the most important first step is to confirm that idiopathic hepatitis is present by having a liver biopsy. Without this confirmation, the best medications cannot be chosen, and the degree of severity of the disease and likely outcome are unknown.

Caring for a dog with idiopathic hepatitis is a demanding, time-consuming, and costly proposition (see [Treatment](#)). However, dogs that respond well to treatment regain their normal demeanor and activity level and with ongoing care may live months to years in the best-case scenarios. Therefore, once the diagnosis of idiopathic hepatitis is known from the liver biopsy, an important decision needs to be made regarding whether to continue and treat or whether to stop and possibly to consider humane euthanasia. Much depends on the degree of the severity of the problem, since this will be a major determinant of whether a good response to treatment can be expected. This severity is determined by the initial symptoms, response to treatment, and most importantly by the specific features of the liver biopsy findings, such as the degree of fibrosis (scarring) seen by the pathologist in the liver biopsy specimen, which is a negative indicator when severe. Idiopathic hepatitis may be incurable, but with daily medications, good nutrition, and periodic veterinary rechecks, a good outlook and quality of life are often possible.

## TREATMENT

While the diagnosis of idiopathic hepatitis is invasive (biopsy), the treatment is nonsurgical and depends entirely on medications. Effective liver transplants do not exist in dogs. Appropriate medications for idiopathic hepatitis typically consist of long-term prescriptions of antiinflammatory drugs (cortisone-like drugs, corticosteroids) and immunosuppressive drugs (such as cyclosporine and others) to reduce the immune-mediated destruction of the liver, and supportive medications including gastric protectants, ursodiol, medications such as lactulose or antibiotics that reduce the level of circulating toxins that the liver failed to eliminate from the bloodstream, and potentially many other medications ranging from intravenous plasma transfusion to diuretics based on the specifics of the case. Some nutritional supplements such as s-adenosyl methionine (SAMe) have emerged as potentially very useful to accompany the standard treatment mentioned above.

Finally, specific nutrition is critical in fending off symptoms relating to inadequate liver function that may occur from idiopathic hepatitis. The best foods contain no meat protein sources but are balanced for protein using vegetable proteins and dairy or milk protein, as well as adequate starches and fats. It is absolutely essential to reduce feeding meat (cooked turkey or chicken, red meat, etc. can all produce problems) as much as possible, or avoid meat altogether. Your veterinarian can suggest a prescription diet (dry or canned) that will be suitable—several brands exist—or can give you a list of suitable ingredients to create a balanced diet if you wish to make it yourself at home.

## DOs

- Remember that hepatitis is *not* caused by the hepatitis A, B, or C viruses (like in people) and is *not* contagious from animals to humans.
- Realize that dogs with idiopathic hepatitis will require ongoing periodic veterinary care. This is not a disease that will get better on its own. Therefore, when idiopathic hepatitis is confirmed by liver biopsy, you should consider the implications of this disease as described above and decide on a plan that is realistic for you and your dog.
- If you have medications recommended or prescribed, continue them until otherwise directed. Do not stop just because symptoms are subsiding or your dog seems better, since it is often the medication that is helping.
- Understand that the goal of treatment is to give the right combination of medications that minimizes any potential adverse effects of medication while reducing the symptoms caused by idiopathic hepatitis. It is just as risky to give too little medication as too much: too little medication means a lower risk of medication-related adverse effects but also that the hepatitis may be allowed to gain momentum and severity. You should feel comfortable talking with your veterinarian about medications and supplements, and finding a balance that works best, if you are concerned that the response to treatment is not as you expected it.
- Consider a second opinion with a veterinary internist if the diagnosis is unclear, for the latest treatments, or simply to consult with an expert in liver diseases of dogs. These specialists in internal medicine are in most major North American and European cities (directories: [www.acvim.org](http://www.acvim.org) or [www.vetspecialists.com](http://www.vetspecialists.com) and [www.ecvim-ca.org](http://www.ecvim-ca.org)).

## DON'Ts

- Do not give up because of a bad day. There may be other medications to try, adjustments in dosage, or changes in diet that may turn your pet around. Because no two dogs are alike, as a rule several adjustments are necessary to achieve the best medication combination to control the effects of idiopathic hepatitis.

## WHEN TO CALL YOUR VETERINARIAN

- If you notice persistent signs or symptoms (see below), worsening of such symptoms if they were already present, or new symptoms, your veterinarian should be aware of them. They may not all go away after starting treatment, but they should improve. They should not be getting worse if the treatment is working.

## SIGNS TO WATCH FOR

- Weakness, poor appetite, abnormal behavior or mental dullness, bleeding of any kind, swelling of any kind, distended belly, difficulty breathing, increased drinking, increased urination, vomiting, or excessive drooling are some of the signs and symptoms that can occur due to idiopathic hepatitis. Your veterinarian may give you additional signs to watch for based on specifics of your pet and the medications prescribed.
- Some of these signs (increased drinking and urination, panting, and slightly pot-bellied appearance) may be caused by the medication (cortisone/corticosteroids) prescribed and should not be a cause for alarm. If unsure, you should feel free to ask your veterinarian.

## ROUTINE FOLLOW-UP

- Follow-up will be determined by your veterinarian and is often lifelong. Frequent rechecks, phone discussions, and adjustments of medication may be necessary, depending on your pet's specific symptoms and severity of disease. Usually, initial rechecks are fairly close together (such as weekly or every 2 weeks for the first few weeks or month or two) until some degree of stability is achieved, and then the rechecks may be spread out more widely if things are going well.



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